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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,609

12/10/2003

Philip C. Hadley

179.043

8509

26067

7590

02/01/2007

HEXCEL CORPORATION
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EXAMINER

DAVIS, ROBERT B

ART UNIT

PAPER NUMBER

1722

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/733,609

Applicant(s)

HADLEY, PHILIP C.

Examiner

Robert B. Davis

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 24-39, 42, 43 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 11-13, 15-19, 21-23, 40, 41 and 44 is/are rejected.
- 7) ☒ Claim(s) 2, 10, 14 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/5/4, 3/18/4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-23, 40, 41 and 44, in the reply filed on October 26, 2006 is acknowledged.
2. Claims 24-39, 42, 43 and 45 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 26, 2006.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-9, 11-13, 15-19, 21-23, 40, 41 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Alanko (5,665,301: figures 1-3; column 1, lines 13-17 and 51-65; column 2, lines 57-62; column 3, lines 1-8 and 60-67; column 4, lines 4-7 and column 5, line 36 to column 6, line 9).

Alanko teaches an assembly for use in making fiber-reinforced composite articles according to a method wherein an uncured resin having a given viscosity is infused into a dry fibrous body (4), said assembly comprising: a mold (1, 3, 5) comprising a surface having a first injection location (9) and a second vacuum drawing location (10), a fibrous body (4, 11) extending on the mold surface from the first location to the second location,

Art Unit: 1722

and an immobilization agent associated with the fibrous body (11), the immobilization being a thixotropic agent located within a fibrous veil coated with styrene microballoons that are soluble in the injected resin. The fibrous body forms a vacuum passage initially and then upon resin impregnating the veil, the microballoons absorb and expand with the monomer contained in the resin to effectively seal the conduit (11). Please note that the reference states that the self-sealing micro porous transition conduits (fibrous veils 11) act as lifting tabs to aid in removal of the article from the mold surface. Thus the fibrous body consists of the main portion (4) and the fibrous veil layers (11). It is clear that the Alanko reference teaches impregnation with an uncured resin and then curing of the resin to form a composite article, even though such language is intended use. The resin is listed as being an epoxy resin (column 1, lines 35-36). The resin is also called a catalyzed resin (column 1, lines 12-15). It is clear that the reference inherently uses the resins discussed in the background of the invention as such are traditional boat making resins.

Allowable Subject Matter

5. Claims 2, 10, 14 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art teach or suggest a fibrous body in combination with the mold of claims 1 or 13 having an accelerator agent being located in sufficient amount to increase the viscosity of at least a portion of the infused resin to form an immobilized

Art Unit: 1722

resin barrier to restrict flow between the first and second locations. Alanko discloses a thixotropic agent (microballoons) coated onto a fibrous veil such that the microballoons expand when contacted by the monomer of the injected resin to shut off vacuum passages.(11), but the reference does not disclose or suggest using an accelerator agent in combination with the veil. In regards to claims 10 and 20, none of the prior art teach or suggest an assembly of claims 5 or 17, wherein the fibrous body comprises at least two layers of fibers and wherein the immobilization agent is located between some or all of said layers of fibers. Alanko discloses a veil coated with a thixotropic agent but fails to disclose or suggest an immobilization agent between two layers of fibers.

Conclusion

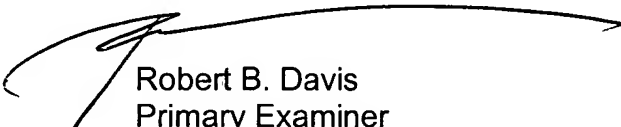
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The remaining references illustrate the state of the art of venting within RTM or resin infusion molds. Palmer et al (4,942,013) disclose a filter (134) that allows volatiles, but not resin to exit a vacuum line (136). Schlingman (5,443,778) discloses a RTM mold having a porous plug (60) that prevents excess quantities of resin from entering a vacuum passage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert B. Davis whose telephone number is 571-272-1129. The examiner can normally be reached on Monday-Friday 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1722

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert B. Davis
Primary Examiner
Art Unit 1722

1/30/07